(iii) administering to a patient determined to have a cancer cell having one or more said feature(s) of repressed p53 signaling pathway one or more PARN inhibitor(s) for a time and in an amount sufficient to reduce the severity of one or more symptom(s) of cancer in the patient.

47. The method of claim **46**, further comprising the steps of:

(iv) measuring one or more feature(s) in a cancer cell(s) from said patient selected from the group consisting of: tumor protein-53 (p53) mRNA or protein levels, and cyclin-dependent kinase inhibitor 1 (p21) expression or activity;

(v) determining from the measurements in step (iv) whether said cancer cell(s) in said patient has one or more feature(s) of a repressed p53 signaling pathway selected from the group of: decreased p53 mRNA or protein levels, and decreased p21 expression or activity relative to these features in a control sample; and

(vi) administering to a patient determined to have a cancer cell having one or more said feature(s) of a repressed p53 signaling pathway one or more PARN inhibitor(s) for a time and in an amount sufficient to reduce the severity of one or more symptom(s) of cancer in the patient.

48. The method of claim **46**, wherein step (iii) further comprises the administration of one or more chemotherapeutic agent(s) to the patient.

49. The method of claim **47**, wherein step (vi) further comprises the administration of one or more chemotherapeutic agent(s) to the patient.

50-51. (canceled)

52. The method of claim **46**, wherein the control sample in step (ii) is a noncancerous cell or a cell untreated with a genotoxic agent.

53. The method of claim **47**, wherein the control sample in step (v) is a noncancerous cell.

54-73. (canceled)

74. A kit for diagnosing a chemotherapy-resistant or chemotherapy-sensitive cancer in a patient comprising: one or more reagent(s) capable of measuring one or more feature(s) in a cancer cell(s) from said patient selected from the group consisting of: levels of cytoplasmic or nuclear PARN protein; levels of PARN protein or RNA; levels of phosphorylated PARN protein in the cytoplasm or nucleus; tumor protein-53 (p53) mRNA or protein levels, expression of a mutant or truncated p53 with decreased expression or activity, and cyclin-dependent kinase inhibitor 1 (p21) expression or activity; and, instructions for using these reagents to determine the presence of a chemotherapy-resistant or chemotherapy-sensitive cancer in said patient.

75. The kit of claim **74**, wherein said one or more reagent(s) in (a) are selected from the group consisting of:

an antibody that binds phosphorylated, non-phosphorylated, or total PARN protein; an antibody binding to p53 protein;

an oligonucleotide comprising a sequence complementary to a nucleic acid sequence encoding a wild type PARN protein; one or more nucleic acid primer(s) complementary to a nucleic acid sequence encoding a wild type PARN protein; an oligonucleotide comprising a sequence complementary to a nucleic acid sequence encoding a wild type p53 protein; one or more nucleic acid primer(s) complementary to a nucleic acid sequence encoding a wild type p53 protein; an oligonucleotide comprising a sequence complementary to a nucleic acid sequence encoding a mutant or truncated p53 protein; one or more nucleic acid primer(s) complementary to a nucleic acid sequence encoding a mutant or truncated p53 protein; and an antibody that binds to p21.

76-101. (canceled)

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